Amend claim 1 as follows:

- 1 1. (Twice Amended) A fault tolerant liquid crystal display comprising:
- a polarizer for coupling to a beam of incident light to polarize the beam of light
- 3 with respect to a polarization angle
- a plurality of liquid crystal display regions operably coupled to the polarizer;
- a plurality of pixels arrayed on each of the liquid crystal display regions, each
- pixel having a collinear one-to-one correspondence with a pixel on an adjacent liquid crystal
- 7 display region;
- 8 an analyzer coupled to the plarality of liquid crystal display regions and the
- 9 polarizer to pass a gray-scale portion of the beam of polarized light transmitted as a function of
- 10 the polarization angle; and
- a means to control gray-scale on at least one of the pixels on at least one of the
- 12 liquid crystal display regions.

Cancel claims 2 and 3.

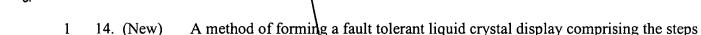
Amend claim 4 as follows:

- 4. (Twice Amended) The liquid crystal display of claim 1 wherein the gray-scale control means
 - includes an electronically programmable driver and interface circuitry formed on at least one of
- 3 the liquid crystal display regions.

Cancel claims 5-11.

Add new claims 12-17 as follows:

- 1 12. (New) The liquid crystal display of claim 1 wherein the means to control gray-scale
- 2 controls the intensity of the transmitted light through at least two collinear pixels.
- 1 13. (New) A fault tolerant liquid crystal comprising:
- a primary liquid crystal display region and at least one secondary liquid crystal
- 3 display region;
- a means of applying and fixing a first voltage to the pixels of the primary liquid
- 5 crystal display region; and
- a means of applying a fixing a second voltage to the pixels of the at least one
- 7 secondary liquid crystal display region to achieve a transmitted intensity.



of:

5

providing a polarizer;

providing a plurality of collinearly arranged liquid crystal display regions, each of

- the liquid crystal display regions including a plurality of pixels configured in a two-dimensional
- 6 array in the plane of the liquid crystal display regions;
- 7 orienting each liquid crystal display region so that each pixel in the array has a
- 8 one-to-one correspondence with a pixel on an adjacent liquid crystal display region;
- 9 providing an analyzer operably coupled to the liquid crystal display regions and
- 10 the polarizer; and

providing a means to control gray-scale on at least one of the pixels on at least
one of the liquid crystal display regions.

display.

- 15. (New) An apparatus for calibrating a fault tolerant liquid crystal display comprising:
 a light source;
 an intensity homogenizing and projection optics operably coupled to the light
 source for transmitting a uniform beam of light to the liquid crystal display;
 imaging optics for focusing the light passed by the liquid crystal display;
 an optical detector for measuring the light focused by the imaging optics;
 programming electronics operably coupled to the optical detector; and
 a means for setting gray-scale values on individual pixels of the liquid crystal
- 1 16. (New) A method for calibrating a fault tolerant liquid crystal display comprising the 2 steps of:
 - placing a fault tolerant liquid crystal display into an optical test-bed, wherein the liquid crystal display includes a primary liquid crystal display region and least one secondary liquid crystal display region, each liquid crystal display region containing an array of pixels; uniformly illuminating each of the pixels on the liquid crystal display regions; determining a desired light intensity through each of the pixels on the liquid crystal display regions;
- 9 determining a desired uniformity level for the liquid crystal display;

applying a first voltage to the pixels of the primary liquid crystal display region and applying a second voltage to the pixels of the secondary liquid crystal display region to achieve a transmitted light intensity;

measuring the transmitted light intensity through each of the pixels on the liquid crystal display regions;

comparing the transmitted light intensity with the desired light intensity;

adjusting the first voltage or the second voltage to achieve the desired light intensity and the desired uniformity; and

fixing the adjusted first voltage and adjusted second voltage to maintain the desired light intensity and the desired uniformity.

1 17. (New) A method for correcting faulty pixels in a fault tolerant liquid crystal display comprising the steps of:

placing a fault tolerant liquid crystal display into an optical test-bed, wherein the liquid crystal display includes a primary liquid crystal display region and least one secondary liquid crystal display region, each liquid crystal display region containing an array of pixels; uniformly illuminating each of the pixels on the liquid crystal display regions; determining a desired light intensity through each of the pixels on the liquid crystal display regions;

applying a first voltage to the pixels of the primary liquid crystal display region and applying a second voltage to the pixels of the secondary liquid crystal display region to achieve a transmitted light intensity;

	Appl. No. 08/518,051		Navy Case No. 83927
12	measuring the	transmitted light intensity through each of	the pixels on the liquid
13	crystal display regions;		
14	comparing the	e transmitted light intensity with the desired	l light intensity;
14	adjusting the f	first voltage or the second voltage to achiev	e the desired light
16	intensity; and		
17	fixing the adju	usted first voltage and adjusted second voltage	age to maintain the
18	desired light intensity.	\	